

APPENDIX A

1 (Currently Amended). A modular switch comprising:

fiber and power access ports for receiving and distributing physical signal and power connection media;

dual optical switch fabric modules coupled to transmit signals to and receive signals from subscriber service modules and including a first switch fabric module and a second switch fabric module;

dual optical trunking modules coupled to transport switched signals between the dual optical switch fabric modules and a service provider optical network, the optical trunking modules providing optical transport distance and redundancy and include a first trunking module and a second trunking module; and

at least one service signal port coupled to the dual optical trunking modules, via the dual optical switch fabric modules, to transmit and receive signals and provide access to a subscriber.

2 (Original). The modular switch of claim 1 wherein the dual optical trunking modules each comprise one or more 1 gigabit Ethernet trunk optic cards or one or more 10 gigabit Ethernet optics cards.

3 (Currently Amended). The modular switch of claim 1 wherein the dual optical switch fabric modules each comprise 32 Gbps or higher switch fabrics.

4 (Original). The modular switch of claim 1 wherein the switch fabric modules support at least one of ethernet switching, Internet Protocol routing, Multiprotocol Label Switching, and Resilient Packet Ring.

5 (Original). The modular switch of claim 1 further comprising an environmentally hardened outdoor housing.

6 (Currently Amended). The modular switch of claim 1 wherein the dual optical trunking modules, the dual optical switch fabric modules, and other component parts of the modular switch, including subscriber service modules and power supplies, comprise environmentally hardened optical and electrical components.

7 (Original). The modular switch of claim 6 wherein the optical and electrical components have an operating temperature range of about -40 degrees Celsius to 60 degrees Celsius.

8 (Currently Amended). The modular switch of claim 1 further comprising at least one subscriber service module and a plurality of subscriber service module slots, the at least one subscriber service module interfacing between one or more subscriber end points and the dual optical switch fabric modules and comprising at least one subscriber signal port, each subscriber service module slot configured to receive one of the at least one subscriber service module.

9 (Original). The modular switch of claim 8 further comprising a plurality of subscriber service modules, with each subscriber service module slot receiving a different subscriber service module.

10 (Original). The modular switch of claim 8 further comprising a plurality of subscriber service modules wherein the subscriber service modules collectively provide access to ninety-six homes.

11 (Currently Amended). The modular switch of claim 1 further comprising a subscriber service module wherein the subscriber service module is coupled to one or both of the dual optical trunking modules, via one or both of the dual optical switch fabric modules, providing network connectivity for subscriber

signal ports contained in the subscriber service module.

12 (Original). The modular switch of claim 11 wherein the subscriber service module comprises multiple single mode, single fiber, environmentally hardened optical transceivers serving as subscriber signal ports.

13 (Original). The modular switch of claim 1 wherein the first optical trunking module transports signals in one direction and the second optical trunking module transports signals in a different direction, each optical trunking module using one or more fibers.

14 (Original). The modular switch of claim 13 wherein the optical trunk connections comprise one of a layer 2 link aggregation and a layer 3 link aggregation to enable both route and equipment protection.

15 (Original). The modular switch of claim 13 wherein the fiber access ports used by the dual optical trunking modules receive signals from and transmit signals to a ring network architecture.

16 (Original). The modular switch of claim 1 wherein the subscriber access comprises a point to point connection.

17 (Currently Amended). The modular switch of claim 1 wherein the dual optical switch fabric modules are coupled to transmit signals to and receive signals from at least one of the dual optical trunking modules, the dual optical switch fabric modules further providing at least one of signal switching, routing, traffic aggregation, and redundancy.

18 (Currently Amended). An optical network comprising:

a network transmitting a signal;

a router coupled to the network to route the signal;

an environmentally hardened modular switch coupled to the router and subscriber end points, the modular switch receiving signals from the router and the subscriber end points to provide point to point subscriber access; and

a fiber access box at a destination coupled to the modular switch with the fiber access box receiving signals from and transmitting signals to the modular switch;

wherein the modular switch comprises dual optical trunking modules, dual optical switch fabric modules, and a plurality of subscriber service modules, the dual optical trunking modules

coupled to at least one of the dual optical switch fabric modules and the dual optical switch fabric modules coupled to the subscriber service modules.

19 (Original). The optical network of claim 18 wherein the modular switch performs at least one of fully redundant switching, aggregation, quality of service classification, and signal transport between the subscriber and the service provider network.

20 (Original). The optical network of claim 18 wherein the network, the router, and the modular switch are coupled through ring architectures.

21 (Original). The optical network of claim 18 further comprising one or more pedestals coupled between the modular switch and the fiber access box, the pedestal providing a fiber breakout point coupling the fiber access box to the modular switch.

22 (Currently Amended). The optical network of claim ~~18~~ 21 further comprising a fiber distribution device coupled to the modular switch wherein the pedestal provides a fiber breakout

point coupling the fiber access box to the modular switch through the fiber distribution device.

23 (Original). The optical network of claim 18 wherein the fiber access box comprises an optical to electrical conversion unit.

24 (Original). The optical network of claim 18 wherein the fiber access box comprises a voice over Internet protocol media gateway.

25 (Original). The optical network of claim 18 further comprising intelligent home networking equipment coupled to the fiber access box, the home networking equipment located within a subscriber premise.

26 (Original). The optical network of claim 18 wherein the fiber access box comprises a plurality of fiber access boxes.

27 (Original). The optical network of claim 18 further comprising an environmentally hardened fiber splice cabinet coupled between the modular switch and one or more fiber access boxes, the fiber splice cabinet providing a fiber splice point between subscriber optical service cables and multiple fiber

trunk cables used for connecting fiber access boxes to the modular switch, the subscriber optical service cables mating with subscriber service ports on the subscriber service modules.

28 (Original). The optical network of claim 27 wherein the environmentally hardened fiber splice cabinet includes multiple fiber access ports for one or more fiber trunk cables and one or more subscriber service cables.

29 (Original). The optical network of claim 27 wherein the fiber access ports of the environmentally hardened fiber splice cabinet comprise one or more fiber access ports accommodating one of one 96 fiber cable, two 48 fiber cables, four 24 fiber cables, eight 12 fiber cables, and one 72 fiber cable plus one 24 fiber cable.

30 (Original). The optical network of claim 18 wherein the router comprises an internet protocol router.

31 (Currently Amended). A method of providing a signal to a destination comprising:

receiving a signal in one of two optical trunking modules;
transmitting the received signal to one or ~~both~~ two dual

optical switch fabric modules;

optically switching and aggregating the received signal;
providing quality of service for the switched signal;
transmitting the switched signal to one of several
subscriber service ports contained on subscriber service
modules; and

transmitting the switched signal from the one of the
several subscriber service ports to a subscriber fiber access
box of a destination.

32 (Original). The method of claim 31 further comprising
receiving the signal from a network and routing the signal to
the switch.

33 (Original). The method of claim 31 further comprising
converting the signal from an optical signal to an electrical
signal in the subscriber fiber access box.

34 (Original). The method of claim 31 wherein transmitting the
switched signal from the one of the several subscriber service
ports to the subscriber fiber access box is comprises
transmitting the switched signal to the subscriber fiber access
box through an optical splice cabinet and a fiber breakout point

housed in a pedestal.

35 (Original). The method of claim 34 wherein transmitting the switched signal through the pedestal to the subscriber fiber access box comprises transmitting the switched signal through the pedestal to one of a plurality of subscriber fiber access boxes.

36 (Original). The method of claim 34 wherein transmitting the switched signal through the pedestal to the subscriber fiber access box comprises transmitting the switched signal through one or more pedestals to one or more subscriber fiber access boxes.